Abstract of the Disclosure

A composite flywheel rim has multiple fiber layers in each of a plurality of radially contiguous zones. The layers in the intermediate zones each have a mixture of carbon fiber tows and glass fiber tows. The ratio of carbon fiber tows to glass fiber tows in each layer of any single zone is constant and the ratio incrementally increases zone-by-zone radially toward the outside of the rim, and the distribution of carbon fiber tows is macroscopically uniform in each zone. The flywheel rim is made by winding a band of fiber tows, impregnated with wet resin, onto a mandrel. The macroscopically uniform distribution can be achieved by controlling the correlation between lead rate of the fiber band as it is wound onto the mandrel per mandrel revolution and the winding length. Carbon fiber tow spacing and position in the band, and a width of a carbon fiber tow also affect the lay up pattern, however, the most effective and the easiest way to change the lay up pattern with constant parameters is by controlling the winding length.